

**Notice of Allowability**

Application No.

09/864,590

Examiner

Daniel Pan

Applicant(s)

BAROWSKI ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03/21/05.
2. ☒ The allowed claim(s) is/are 11-19.
3. ☒ The drawings filed on 24 May 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date attached.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

DANIEL H. PAN  
PRIMARY EXAMINER  
GROUP 1

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### Examiner's Amendments/ Reasons for Allowance

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kevin Radigan on 06/06/05.

In the claim :

- a) claim 16, line 1, after "system" , insert -- usable in parallel computing processors for predicting a value to be produced by an anticipated execution of an instruction--;
- b) claim 16, second paragraph, line 2, delete "arranged to be";
- c) claim 16, second paragraph, line 3, replace "addressable" by --addressed--.
- d) canceled claims 1-10, 20.

Upon further review and consideration, none of the prior art of record teaches the detailed combined features of the following :

- a) the storage of the current actual value resulting from a most-recent execution of the instruction, the storage of current stride , and the stride history pattern representing a pattern of strides resulting from prior executions of the instruction, wherein strides, included the current stride, of the pattern of strides are stored in a stride field of the

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first table, the selection of the stride from the stride field of the first table, and the computation of the predicted value for the value to be produced by the anticipated execution of the instruction using the stride from the selection and the current actual value, and the predicted value from the computation is equal to the prediction result from one of a last value prediction, the stride-based value prediction, and the stride-history pattern-based value prediction (claim 11) ;

b) the first table having at least one entry, each entry comprised a current actual value resulting from the most-recent execution of an instruction, the plurality of stride fields, the stride history pattern field, and the pattern history table for storing a plurality of counters associated with the stride fields of the first table, the pattern history table addressed by a two-table look-up mechanism using the stride history pattern field of the first table to select an entry in the pattern history table, the counters arranged for being updated according to occurrences of the repeated stride patterns (claim 16).

#### Prior art of record

a) Wang (Highly Accurate Data Value Prediction using Hybrid Predictors) taught a value history pattern (see fig.5), but the value history pattern is directed to the storage of the pattern of the actual value of the recent outcomes (see page 362, lines 17-24), not the pattern of the strides, and does teach the combined features set forth in (a) and (b) above.

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b) Nakra (Global Context-Based Value Prediction) was used to show the teaching of the plurality of stride fields (see fig.6 stride 1 and stride 2), but it is not a stride history pattern. Storing a stride history pattern for an instruction is not the same as providing a plurality of stride fields in a table, and no stride history pattern can be found in Nakra (e.g. see applicant's remarks in page 10, lines 7-27 on 03/21/05).

The finality of Office action on 10/19/04 is withdrawn herein :Applicant's arguments, see Appeal Brief , filed 03/21/05, (see also the Amendment on 01/31/05 ) with respect to remaining claims 11-19 is persuasive and, therefore, the finality of the that action is withdrawn.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 703 305 9696, or the new number 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 703 305 9712, or the new number 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703 306 5404.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**21 Century Strategic Plan**

THOMAS H. PAN  
PRIMACY EXAMINER  
GROUP